
Foil Troubleshooting

(Wednesday, 26 November 2003) - Contributed by Craig Harkins

Basic troubleshooting procedures for the most common problems in dealing with electric foil fencing.

Weapon fails weight test.

- The spring is too soft. Get a new spring or stretch the old one.
- Friction between the barrel and point is overwhelming the spring. Clean the inside of the barrel, or replace the entire tip if the barrel or point is bent/warped.

Hitting the strip produces a light.

- The strip is not grounded, or is dirty/corroded.
- The exterior of the foil point is dirty/corroded.

Valid touch produces a white light.

- Opponent's lame' is not connected.
- Opponent's body wire is broken. Diagnose by testing at the lame' clip and at the reel wire connection.
- Opponent's lame' has a dead spot. With some boxes, dead spots can be diagnosed by grounding the fencer's weapon to his suspect lame', and then probing the lame' with the other fencer's weapon. This does not work with boxes that have an anti-fraud feature.
- Your foil body wire polarity is reversed. Disassemble and reverse the connections.
- The exterior of your foil point is dirty/corroded.
- Foil circuit is breaking just before the touch (see below).

Foil produces white lights when the tip is not depressed.

- The tip is jammed shut. Spin the point or slap on the floor to free it.
- Grit in the tip is breaking the circuit. Spin the point or slap on the floor to dislodge the grit.
- The barrel is loose. Tighten carefully with pliers.
- The foil wire is broken. If the lights are intermittent, try flexing the blade to trigger the white lights; success means the blade wire is probably broken. If the lights are triggered by shaking the blade, the point or clip may be to blame.
- The circuit is breaking at the clip. Check that the body cord is held securely by the clip.
- The body wire is broken. Diagnose by shorting the two connections on the weapon end of the body wire. If the lights continue, the body wire or reel is at fault. Short the two close prongs at the other end of the body wire; if the lights stop, the body wire is to blame. If not see (7).
- The scoring apparatus is broken. The connections, reel wire, reel contacts, floor wire, or scoring box may be at fault. Short the same wires as in (6) at the various points of connection to successively eliminate each.
- The guard is loose. Tighten the pommel or pommel nut.

Foil produces coloured lights when the tip is not depressed but is in contact with the opponent's lame'.

- The circuit is broken; see previous problem.
- The circuit is breaking when the blade flexes as it contacts the lame' or when the point is jarred. Could be caused by grit in the tip, a broken wire whose ends normally remain in contact, or a separated wire and cup.

There is no light when a touch is made.

- You are not hitting properly.
 - Friction between the barrel and point is preventing the point from depressing. Slap on the floor to loosen it; otherwise clean or replace the tip.
 - Spring is too heavy. Compress it or heat one end with a match.
 - Opponent is grounding his weapon to his lame'. Tell him to stop; it's illegal.
 - You are grounding your own foil to your opponent's lame'. Improve the insulation on your foible (15 cm is required).
 - The foil wire is shorting to the weapon. Check the integrity of the insulation along the wire and beneath the cushion.
- Also make sure no wire ends at the clip are touching the rest of the weapon.
- The scoring box is on the wrong weapon setting.
 - There is a short in your body wire. If there are no lights when the weapon is unplugged, but there are lights when the

body wire is unplugged from the reel, the body wire is at fault.

- There is a short in the scoring apparatus. If there are no lights when the fencer unplugs from the reel, this is the problem. It can be isolated by successively unplugging connections to the box.

Wrong lights go off when a touch is made.

- The scoring box is on the wrong weapon setting.